

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-20. (Cancelled)

Claim 21. (Original) A method of determining the state of a gas injection system in a plasma processing device comprising:

changing a process parameter in said plasma processing device to affect a change of a gas injection pressure in said gas injection system, said gas injection system comprising a gas injection assembly body configured to receive a process gas from at least one mass flow controller, a consumable gas inject plate coupled to said gas injection assembly body, said consumable gas inject plate comprising at least one orifice to distribute said process gas to said plasma processing device, a pressure sensor coupled to said gas injection system, and a controller coupled to said pressure sensor;

measuring a response time corresponding to a change of said gas injection pressure using said pressure sensor, wherein said response time corresponds to a first time delay when said consumable gas inject plate exhibits a non-eroded state and said response time corresponds to a second time delay when said consumable gas inject plate exhibits an eroded state; and

comparing said response time with said first time delay in order to determine said state of said gas injection system.

Claim 22. (Original) The method recited in claim 21, further comprising a gas inject plate between said gas injection assembly body and said consumable gas inject plate.

Claim 23. (Original) The method recited in claim 21, wherein said consumable gas inject plate comprises one of silicon, carbon, silicon carbide, quartz, alumina, and coated metal.

Claim 24. (Original) The method as recited in claim 21, wherein said process parameter comprises at least one of a processing pressure in said plasma processing device and a mass flow rate of said process gas.

Claim 25. (Original) The method as recited in claim 21, wherein said first time delay is greater than said second time delay.

Claim 26. (Original) The method as recited in claim 21, wherein said state of said consumable gas inject plate is determined by a comparison of said response time to a fraction of said first time delay.

Claim 27. (Original) The gas injection system as recited in claim 21, wherein said state of said gas injection system comprises a partially eroded state when said response time ranges from 25% to 75% of said first time delay.

Claim 28. (Original) The gas injection system as recited in claim 21, wherein said state of said gas injection system comprises a fully eroded state when said response time is less than 25% of said first time delay.